**Why Forest Fires Occur**

- **Cheap and Fast Method for Clearing Land**
  - Various actors (companies, small scale farmers) use fire to clear land for development and agriculture.

- **Instrument in Land Tenure and Land Use Disputes**
  - Fires are often used to stake claims in land disputes between large scale companies and small scale farmers.

- **Accidental Fires**
  - Drained peatlands are highly flammable during the dry season. Small-scale clearing and camp fires easily burn out of control.

*Unlike boreal areas where lightning causes forest fires, most of fires in Indonesia are man-made.*

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**Effects of Forest Fires**

- **Climate Change**
  - 55% or 470 Mt
    - Indonesia’s peatland annual CO2 emission due to peat fires.
    - Indonesia National Council on Climate Change, 2005

- **Health**
  - In 1997, an estimated 20 million people in Indonesia suffered respiratory problems due to forest fires.

- **Economic**
  - Almost 50,000 people in Riau suffered from respiratory illness during the March 2014 forest fires.
  - Forest fires meant a USD 4.5 billion loss to the Indonesian economy in 2013.
  - Indonesia lost IDR 15 trillion (USD 1.3 billion) in investments and growth during the March 2014 forest fires.
  - During the fires of 2013, Singapore claimed to suffer a loss of $1 billion a week.
  - Severe haze and smoke from forest fires mean airports, businesses and school must close.

- **Biodiversity**
  - Loss of habitat for Sumatran tigers, orangutan, and gibbons.

*Values in millions of metric tons.*

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**About the Data**

- **810-2,570 MT**
  - Carbon released in Indonesia in the 1997 forest fires.
Between Jan 2013 – July 2014, 73% of fire alerts in Sumatra occurred in Riau. Riau contributes 27% or 284.67 Mt in annual CO2 emissions.

**Near Real-Time Fire Alerts**
- Peatland Depth
- Air Quality & Wind Direction
- Concession Data
- Protected Areas

**Send Fire Alerts directly to Villages and Districts**
- Fire Alerts in Peatland
- Location of Fire Alerts in Concessions
- Fire Alerts in Protected Areas

**Priority Recommendations for Fire Prevention**
- **Focus in Riau Province**
  - Between Jan 2013 – July 2014, 73% of fire alerts in Sumatra occurred in Riau.
  - Riau contributes 27% or 284.67 Mt in annual CO2 emissions.
- **Focus on Peatland Areas**
  - Between March 2013 – March 2014, 75% of fire alerts in Sumatra overlapped with peatland.
  - Peat fires release greater amounts of GHG than fires in non-peat areas and are much harder to put out.
- **Focus on Illegal Burning & Provide Land-Clearing Alternatives for Small Farmers**
  - Focus on controlling and regulating fires used to clear land.
  - Address land claims and disputes between communities and companies.
  - Ramp up enforcement efforts targeting actors illegally setting fires.
  - Provide small farmers with mechanical land clearing equipment.

**Other Unique Features**
- **High Resolution Satellite Images**
- **Wind Direction**
- **Social Media**

**WRI (2014)**
out of 45,000 fire alerts in Sumatra occurred in Riau.

Fire alerts overlapped with peatland.

WRI (2014)

Peat fires release greater amounts of GHG than fires in non-peat areas and are much harder to put out.

fires.globalforestwatch.org @globalforests